What is Quality Improvement?

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Quality Improvement (QI) is not simply an end goal. QI is a continuous process that
employs rapid cycles of improvement. The [Donabedian model](#) provides three
dimensions for the quality of care. These dimensions are: 1) the structure, which
represents the attributes of settings where care is delivered; 2) the process, or
whether or not good medical practices are followed; and 3) the outcome, which is the
impact of the care on health status.

When initiating the quality improvement process, the Institute of Medicine's quality
domains (listed below) can guide the process by identifying specific areas for
improvement.

[IOM Six Aims for Improvement](#)

- **Safe**: avoiding injuries to patients from the care that is intended to help them.
- **Effective**: providing services based on scientific knowledge to all who could
  benefit, and refraining from providing services to those not likely to benefit.
- **Patient-centered**: providing care that is respectful of and responsive to
  individual patient preferences, needs, and values, and ensuring that patient
  values guide all clinical decisions.
- **Timely**: reducing waits and sometimes harmful delays for both those who
  receive and those who give care.
- **Efficient**: avoiding waste, including waste of equipment, supplies, ideas, and

energy.

- **Equitable**: providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socioeconomic status.

[Duke University's guidance on quality improvement](#) incorporates several models used in QI, and provides a description of five models discussed below.   The processes described in each model may be combined and used together.

FADE - There are 4 broad steps to the FADE QI model:

- - **Focus**: Define and verify the process to be improved
  - **Analyze**: Collect and analyze data to establish baselines, identify root causes and point toward possible solutions
  - **Develop**: Based on the data, develop action plans for improvement, including implementation, communication, and measuring/monitoring
  - **Execute and Execute**: Implement the action plans, on a pilot basis, and Install an ongoing measuring/monitoring (process control) system to ensure success.

 PDSA - The 4 steps in this model include:

- - **Plan**: Plan a change or test of how something works.
  - **Do**: Carry out the plan.
  - **Study**: Look at the results. What did you discover?
  - **Act**: Decide what actions should be taken to improve.

Six Sigma (DMAIC - define, measure, analyze, improve, control) - an improvement system for existing processes falling below specification and looking for incremental improvement.

CQI: [Continuous Quality Improvement](#) -"It focuses on the 'process' rather than the individual, recognizes both internal and external 'customers' and promotes the need for objective data to analyze and improve processes." CQI is an approach to quality management that builds upon traditional quality assurance methods by emphasizing the organization and systems.

TQM: [Total Quality Management](#) - a set of management practices throughout the

organization, geared to ensure the organization consistently meets or exceeds customer requirements.

An additional model to consider is **Root Cause Analysis (RCA)**. According to an EPC Evidence Report, RCA is defined as "a retrospective approach to error analysis" that "requires rigorous application of established qualitative techniques." The report also identifies 2 major steps involved in Root Cause Analysis:

- ○ **Data collection**: establishment of what happened through structured interviews, document review, and/or field observation. These data sets are used to generate a sequence or timeline of events preceding and following the event.
  - ○ **Data analysis**: an iterative process to examine the sequence of events generated above with the goals of determining the common underlying factors:
    - Establishment of how the event happened by identification of active failures in the sequence.
    - Establishment of why the event happened through identification of latent failures in the sequence that can be generalized.

The key difference between the quality improvement models suggested by Duke and RCA is that the first five models are prospective, while RCA assesses problems retrospectively. The Duke models focus on what steps can be taken now to improve quality in the future, while RCA identifies a quality problem and how to solve this problem to improve quality. In the process of quality improvement, regardless of which model is chosen, there are three questions that implementers should consider.

1. What are we trying to accomplish?
2. How will we know that a change is an improvement?
3. What change can we make that will result in improvement?

Selecting a quality improvement model to address these questions is not a strictly defined process. There is not a specific model that works best based on different types of situations or concerns. When selecting a model for quality improvement, the health care organization should choose one that fits best within its existing organizational structure and workflow.

Related Resources:

How to Improve - Institute for Healthcare Improvement
Patient Safety - Quality Improvement - Duke University
Chapter 5. Root Cause Analysis- Agency for Healthcare Research and Quality
Removing the Fluff: The Quality in Quality Improvement - Nursing Economics

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